

Response

Claim Rejections - 35 USC Section 103

Claims 1 - 13 have been rejected by the Examiner under 35 USC Section 103(a) as being unpatentable over Ottman (4,153,404) in view of Hereford (5,145,692). Applicant respectfully traverses the Examiner's rejection since the elements that make up Applicant's invention are not taught by either Ottman or Smith - nor is there any teaching or suggestion to combine the elements of Ottman and Smith to produce an invention such as that disclosed by the Applicant in the present invention. Ottman discloses a forming apparatus for ice blocks. The Examiner is correct in stating that Ottman fails to disclose an apparatus with an indexing plate and a mixing means.

Hereford does disclose an apparatus for forming bricks. Unlike the molding apparatus of the present invention, however, the apparatus of Hereford utilizes one compression cylinder and one ram press plate. Like Ottman, Hereford does not disclose a continuous mixing apparatus as disclosed in the present invention. Rather, Hereford discloses a single mixing funnel for mixing the material before feeding material to the molds. In fact, the specification of the '692 patent states that "the mixer funnel 55, suspended from end portion of hoppers 52, 56, includes a rotary mixer 58 which can be operated by a variable speed hydraulic rotary motor at approximately 300 r.p.m. to intermingle the soil and additives in a desirable proportion as they fall into a mold box 23 when the mold box 23 is located at the fill station" (column 5, lines 19 - 25). Hereford does not disclose additional, continuous mixing in a charge chamber after delivery of the mix from a main auger-type mixer. This design of the present invention, together with the self-cleaning action of the ram design, overcomes the disadvantage of the prior art

whereby a mix hydrated to a level sufficient for self-curing would stick to and clog the machines in the prior art.

Moreover, there is no teaching in Hereford that a charge chamber abut front and rear rams along the flat bottom of the charge chamber such that a shutoff valve is formed. In fact, there is no teaching at all of a charge chamber (and only a single ram), and thus Hereford also cannot teach, even in conjunction with Ottman, the provision of the solid top of the rear ram as a shutoff valve for sealing off any additional charge in the feed chute that feeds a charge chamber. Accordingly, Applicant's claims describe at least two structural limitations that are different from the prior art.

Unlike the freshly dug soil (column 7, line 60) used for forming bricks according to the disclosure of Hereford, the present invention compresses cement mix, which has a higher moisture content than a granular solid such as dirt. In order to provide an apparatus that is capable of forming bricks or pavers that can be formed as a continuous process and collected in or on an indexing plate, the indexing plate and compression means are combined with a means for continuous mixing to facilitate the use of a crumb charge that can be compressed sufficiently to exceed relevant strength and absorption requirements. The combination of elements of the invention quite significantly eliminates the need for steam curing of formed cement bricks or brick pavers. The absence of these elements in the prior art, even in combination, has left a significant drawback in the industry, which the present invention has solved.

For an invention to be obvious, there must be some teaching, suggestion, or motivation in the prior art to combine the elements of the invention., C.R. Bard, Inc. v. M3 Sys. Inc., 157 F.3rd 1340, 48 USPQ2d 1225 (Fed. Cir. 1998) In re Geiger, 815 F.2d

686, 2 USPQ2d 1276 (Fed. Cir. 1986). The suggestion to combine references must not be derived by hindsight from knowledge of the invention itself. Cardiac Pacemakers, Inc. v. St. Jude Medical, Inc., Fed. Cir., No. 02-1532, 8/31/04. There is no teaching or suggestion within either of the cited patents to combine the elements of the present invention. The passing of more than a decade (Hereford issued in 1992, and Ottman in 1979) without anyone combining these two references would seem to support the conclusion that their combination was not, in fact, obvious.

Nor is there any motivation to combine these elements. Ottman provides a machine for compacting particles of ice to form a composite block, and Hereford provides an apparatus for compacting dirt into bricks. Neither teaches the use of mixing means as disclosed in the present invention. Nor is there any motivation for one of skill in the art to combine these elements to form the present invention.

By providing a mixer in conjunction with the elements to form brick using compression along a single axis in two directions from a wet mix such as cement, Applicant has overcome the need for steam curing that currently exists in the brick-molding machines of the art. This decreases both cost and production time, which has been a goal for the industry for some time. As the Examiner is aware, a long-felt need in the art is an element of the Graham test for non-obviousness. Graham v. John Deere Company, 383 U.S. 1, 148 USPQ 459 (1966). Applicant has met this test by providing an apparatus that provides a manufacturing process that does, indeed, reduce both cost and production time while still producing a product that exceeds relevant strength and absorption requirements and utilizes desirable building materials such as cement. If the present invention is as obvious as the Examiner suggests, it is inconceivable that over the

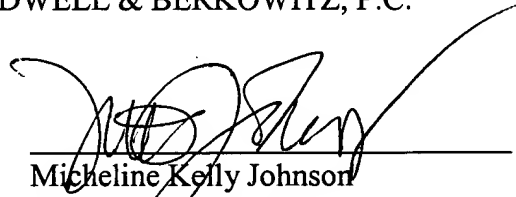
more than ten-year span since Hereford's patent issued, and in view of the financial incentives to be gained by the increased production speed of high-quality cement bricks, that others would not have come to this solution before the present Applicant.

Applicant respectfully requests that the Examiner allow claims 1-13.

Respectfully submitted,

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